

from the owners of palm-gardens; but in his second memoir he has regretfully to confess that "such a scheme would be unworkable in practice unless the owner of the plant also had his own trees. Personal experience showed us that one is entirely at the mercy of the cultivator, and no amount of argument will persuade him to sell his juice at a reasonable rate."

SUSSEX NATURAL HISTORY.¹

THE Hastings and St. Leonards Natural History Society may be congratulated on the well-sustained number of its members (373), on the smallness of its annual subscription (3s. 6d.), and on the interesting character of its journal. It is, in the opinion of many naturalists, disastrous when local societies undertake to publish scientific information important for its novelty. In after-years the duty of reference to such a source may cause students serious inconvenience. The faunistic lists in the present journal so industriously compiled—of Coleoptera by Mr. W. H. Bennett, of Aphididæ by Mr. F. V. Theobald, of Oligochæta by the Rev. H. Friend, and of the local fauna and flora in general by the late memorable Rev. E. N. Bloomfield, Mr. E. A. Butler, Mr. W. Ruskin Butterfield, Mr. Thomas Parkin, and others—will serve to illustrate this point of view. They are, for the most part, of purely local interest, legitimately recorded in the archives now under review. But in a few instances the entries seem less appropriately placed. Thus Mr. Theobald (vol. ii., No. 1, p. 15) renames two species of Aphis. Mr. Friend (vol. ii., No. 3, p. 119) gives details of an Oligochæte as a new species, though he mysteriously says that he had "described" it more than a year earlier. Among Hymenoptera Mr. Bloomfield (vol. ii., No. 3, pl. 9, p. 101) gives excellent figures of *Neurotes iridescens*, male and female, assigning them on the following page to "*Neurotis iridescens* (Enoch)," name of ænus and author's name misprinted. Nearly a year later (vol. ii., No. 4, p. 178) that author, the late Mr. Fred Enoch, fully describes the genus and the species, both still considered as new, of this interesting addition to the family of Mymaridæ or fairy flies.

Apart, however, from the impolicy of publishing novelties of classification in local records, Mr. Enoch's account of the family is well worth reading, as is Mr. Friend's notice of the Oligochæta. In view of the common demand for significant names in biology, he amusingly notes that in these Annelids, named for few setæ, "sometimes the total number of setæ is two thousand, though the worm may not exceed half an inch in length."

In other branches of knowledge things are not always what they are called. In a lecture to which Mr. Anthony Belt, the editor, directs attention, Mr. J. E. Price, a soldier, explains that "smokeless powder" is not a powder at all. This author, speaking in 1912, suggests that the scientific perfection of arms, by rendering the prospect of war too awful to contemplate, "may materially contribute to the preservation of that peace of nations which is so much desired by every thoughtful man to-day." Meanwhile, some of these "thoughtful men" were engineering a conflict which is reckoned to have cost more than four millions of lives of men, not to speak of heart-aching to millions of women that no one can number.

As might be expected with Mr. Thomas Parkin,

¹ *Hastings and East Sussex Naturalist*, vol. ii., Nos. 1-6; vol. iii., No. 1 (December 31, 1912-18).

sometimes as president and always as enthusiastic supporter of the society, the journal may be said to be on the wing with bird-life, and his well-illustrated articles on historic houses—the Grey Friars, Winchelsea, and its rookery (vol. ii., No. 2), Ashburnham Place (vol. ii., No. 4), and Brickwall and Brede Place (vol. ii., No. 6)—must be of continuing interest. In the last he shows how legends may arise. On a vast oak beam there was a great iron hook, of which he said to a companion, "Look where the old lord used to hang his vassals." Lo and behold, "two or three years afterwards I went there again, and the custodian, having forgotten me, repeated my own words as authentic history." Naturally, in speaking of heronries, Mr. Parkin is all in favour of the noble birds, but those who wish to keep goldfish in ornamental waters have been heard to denounce herons as abandoned pirates. There are two sides to many problems, as Mr. Ticehurst shows in regard to the introduction of the little owl (vol. ii., No. 2).

Remarkably full of interest are the papers on *Eoanthropus dawsoni* by the late much lamented Charles Dawson (vol. ii., Nos. 2 and 4). But here again we must take into account what Mr. Anthony Belt has to say in his article on prehistoric Hastings (vol. iii., No. 1, p. 6). Limits of space exclude from notice many other notable essays, such, for example, as that by Prof. Seward on Wealden floras.

NEW IDEALS OF SCIENCE TEACHERS.

A LITTLE more than a year has now elapsed since the publication of the report of the Government Committee which, with Sir J. J. Thomson as chairman, inquired into the position occupied by natural science in the educational system of Great Britain. In the meantime, the recommendations made in this report have been carefully considered by science teachers and others, and at a conference held on May 30, under the auspices of the London County Council, with Sir Cyril Cobb as chairman, the general aims of science teaching were freely discussed.

The main fact which seemed to be made clear by the discussion was that the science teacher of the present day must have two well-defined aims: the one to prepare children for the business of life, and the other to prepare them equally well for the more difficult business of living. On ethical grounds alone there can be no doubt as to which of these is the higher, for "the life is more than meat and the body than raiment." To this we can add that without the meat and raiment and the things of which these are but symbols, life in its broadest, as well as in its more restricted, sense is impossible. Hence these two aims, which appear to some incompatible, or even antagonistic, are in reality convergent, and meet on the common ground of national welfare.

Sir J. J. Thomson, in the opening speech, gave the key-note of the seemingly more ideal theme. Science teaching which is to add to the interests of life and contribute to the *joie de vivre* by dispelling the boredom of unoccupied leisure must be of the popular kind—that is, stimulating rather than feeding. It must cover a very wide field, and be given in the form of lectures, accompanied, when possible, by practical work of a suitable kind.

Such a course as this, essentially the same for boys and girls up to the age of sixteen, must include biology as well as chemistry, physics, and astronomy, for no general course can be considered complete which does not include the consideration of man in relation to his environment. Moreover, if we are to change a C₃ population to an A₁ nation, we must seek the "elixir

of life" in a new way, and to that end everyone should know something of what Sir Ronald Ross calls the "romance of disease" in order that he may value personal fitness and develop what another speaker called a "health conscience."

To turn now to the other aspect of science teaching, namely, preparation for the business of life, the attention of the meeting was rightly directed by Sir Richard Gregory to the scarcity of university-trained scientific workers required for industrial and other purposes. In the proportion of university students to population England stands far behind other nations, having only 5 per 10,000 as against 10 per 10,000 in America and 17 in Scotland. Though the power to remedy this rests mainly with the Government and those who administer the affairs of education, yet the teacher can do a great deal by endeavouring to turn the talent of the nation into the most suitable channels. We can no longer afford to have square pegs trying to fill round holes, and to prevent this the teacher must consider his work unfinished until every effort has been made to place boys and girls in that walk of life which seems most suited to their talents, attainments, and temperaments.

If carried to these culminating points, the work of the teacher will do more than anything else to bring about the full appreciation of the value of education, and with that there will come recognition of the importance of his office and the due reward for his services.

G. H. J. ADLAM.

THE SELOUS COLLECTION.

THE Selous collection of big-game trophies, which has been presented to the Natural History Museum by Mrs. Selous, is, without doubt, the finest ever brought together as the product of one man's gun. It consists of some five hundred specimens shot by the late Capt. F. C. Selous, D.S.O., during a period of nearly forty years, some of the trophies dating from his earliest days as a hunter. The greater part of the collection is African, but there are many specimens from Canada, Newfoundland, the southern Carpathians, and Asia Minor.

Although the collection contains only a few actual "records," the average standard of the heads is very high, the series of Kudu being especially fine. The horns of the grandest specimen of this animal in the Selous Museum measure:—Length, (curve) 60½ in., (straight) 45½ in.; circumference, 11½ in.; tip to tip, 33 in. It was shot in 1890, and Capt. Selous's diary contains an entry referring to this specimen:—"My joy may, therefore, be imagined when I saw that the most superb specimen of a koodoo bull that my eyes had ever looked upon lay dead before me." Another equally grand specimen is the skull with horns of the white rhinoceros from Mashonaland, a practically extinct species. This animal was shot in 1880, and Capt. Selous records that "the anterior horn is the longest for a bull" that he ever saw. There are sixteen specimens of lion, chiefly heads. A mounted specimen measures 9 ft. 11 in. in a straight line from nose to tail. The series of heads of wapiti, from Wyoming, U.S.A., includes several remarkable examples.

Mrs. Selous has also presented to the Natural History Museum the superb collection of European birds' eggs, every clutch in which was collected by Capt. Selous, and is labelled most carefully, with exact date and locality.

The specimens will in due course be removed from Worplesdon to South Kensington, and kept together as the "Selous collection" for a period of years.

FORTHCOMING BOOKS OF SCIENCE.

"A MANUAL of Meteorology," Sir Napier Shaw (part iv., "The Relation of the Wind to the Distribution of Barometric Pressure"); "Problems of Cosmogony and Stellar Dynamics," J. H. Jeans; "An Enquiry Concerning the Principles of Natural Knowledge," Dr. A. N. Whitehead; "Lectures on the Principles of Symmetry," Prof. F. M. Jaeger; "Advanced Lecture Notes on Light," J. R. Eccles (a sequel to the author's earlier work); the fourth and final volume of "Fossil Plants," Prof. A. C. Seward; "Days in My Garden," E. Ballard; "Study of the Weather," E. H. Chapman (Nature Study Series); "Cattle and the Production of Beef," K. J. J. Mackenzie; "Yorkshire, North Riding," Capt. W. J. Weston; "Dumbartonshire," Dr. F. Mort (each in the Cambridge County Geographies); "Euclid in Greek (Book i.)," Sir T. L. Heath; "Short History of Education," Prof. J. W. Adamson; and new and revised editions of "Elasticity," Prof. Love, and "Infinitesimal Calculus," Prof. Lamb (*Cambridge University Press*); "The Living Cycads," C. J. Chamberlain; "Problems of Fertilization," F. R. Lillie; "A Laboratory Manual of Elementary Zoology," L. H. Hyman; "A Source Book of Biological Nature Study," E. R. Downing; "The Function of Death in Human Experience," G. B. Foster; "Fourth Year Mathematics for Secondary Schools," E. R. Breslich (*Chicago: University of Chicago Press; London: Cambridge University Press*); "Locomotive Valves and Valve Gears," I. H. Yoder and G. B. Wharen; "Physical Laboratory Experiments for Engineering Students," S. Sheldon and E. Hausmann; "Hot Bulb Oil Engines and Suitable Vessels," W. Pollock; "The Manufacture of Chemicals by Electrolysis," A. J. Hale (Electro-Chemistry Series); and new editions of "Glass Manufacture," Dr. W. Rosenhain; "The Manufacture of Paper," R. W. Sindall; "Wood Pulp," C. F. Cross, E. J. Bevan, and R. W. Sindall; "Photography," by Alfred Watkins (Westminster Series); "Handbook for the Care and Operation of Naval Machinery," Commander H. C. Dinger (*Constable and Co., Ltd.*); "Souvenirs Entomologiques: Etudes sur l'Instinct et les Mœurs des Insectes," J. H. Fabre, édition définitive illustrée, 10 vols. (*Paris: Delagrave*); "Birds in Town and Village," W. H. Hudson (*J. M. Dent and Sons, Ltd.*); "An Introduction to Child Psychology," Prof. C. W. Waddle; "The Measurement of Intelligence," Prof. L. M. Terman (*G. G. Harrap and Co., Ltd.*); "Annals of the Philosophical Club of the Royal Society, Written from its Minute Books," Prof. T. G. Bonney; "Science and Fruit-Growing: Being an Account of the Results Obtained at the Woburn Experimental Fruit Farm since its Foundation in 1894," the Duke of Bedford and S. Pickering; "A Text-book of Embryology" (vol. iii., Mammalia), by the late Dr. R. Assheton, completed by Dr. F. H. A. Marshall and J. T. Saunders; "Lectures on Sex and Heredity," Prof. F. O. Bower, Prof. Graham Kerr, and Dr. W. E. Agar; "Essays on the Surgery of the Temporal Bone," Sir C. A. Ballance, with the assistance of Dr. D. Green; and new editions of "Mendelism," Prof. R. C. Punnett, and "On Longevity and Means for the Prolongation of Life," the late Sir H. H. Weber, edited by Dr. F. Parkes Weber, with a preface by Sir Clifford Allbutt (*Macmillan and Co., Ltd.*); "The Thermionic Valve in Radio-telegraphy and Telephony," Prof. J. A. Fleming; "The Oscillation Valve: The Elementary Principles of its Application to Wireless Telegraphy," R. D. Bangay; "Telephony without Wires," P. R. Coursey (*The Wireless Press, Ltd.*).